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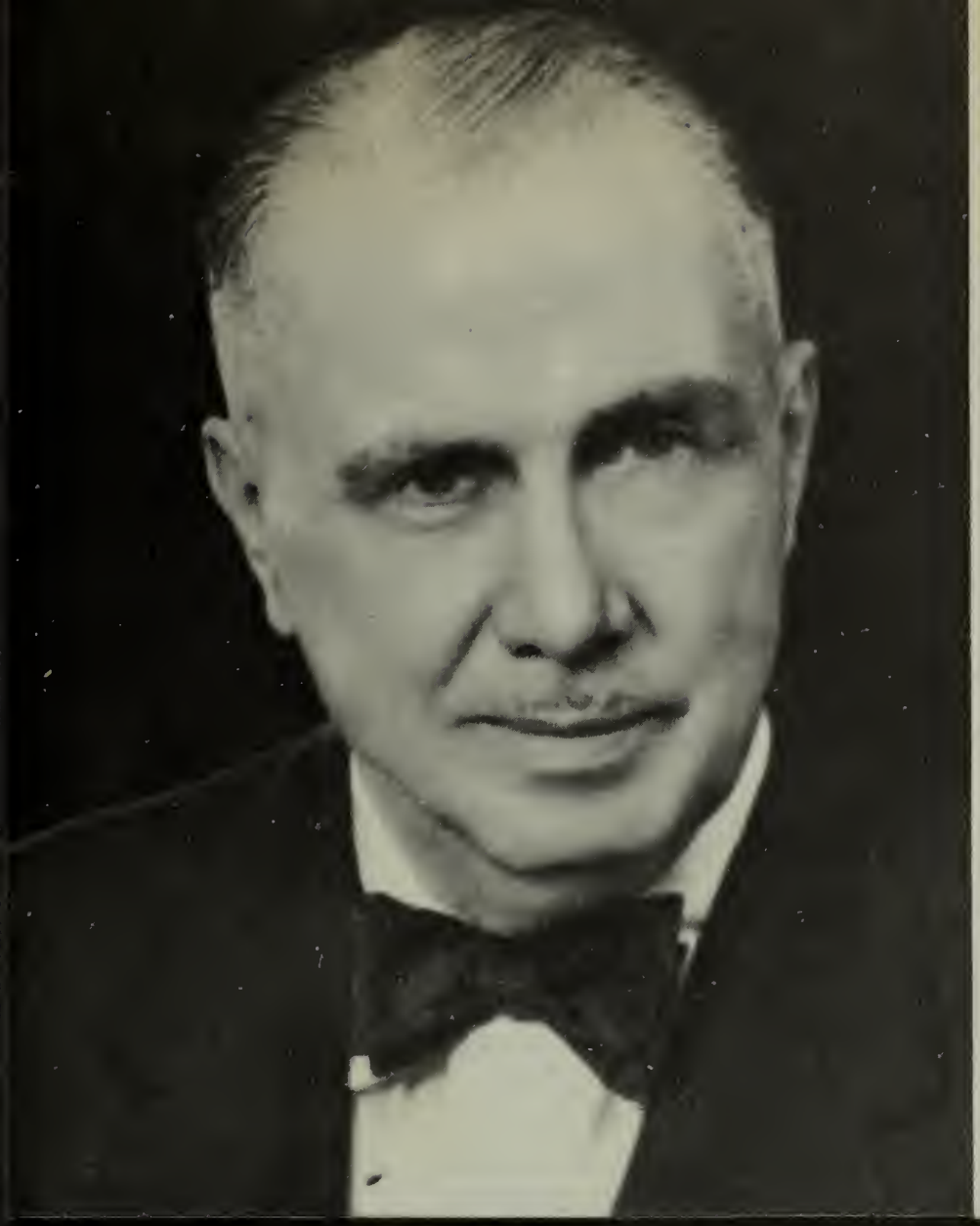

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Playing At Sight

E. C. MOORE
G. Leblanc Corporation

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FOREWORD

We have received so many requests for E. C. Moore's booklet, "Playing at Sight", now out of print, that it was decided to publish a second edition. To make this comply with the newly created format of our Leblanc educational aids called for a revision of the original booklet. Dr. James Neilson of our educational staff was asked to undertake this project. His revision holds faithful to Mr. Moore's original presentation, and we are certain that, like the first, the second edition will be a valuable asset to school band and orchestra directors who plan "sight reading" activities for their groups.

In the foreword to the first edition, Mr. Moore made these statements: "This booklet was undertaken in response to a request for a discussion of *sight reading,* although this term does not describe completely what is meant. I have substituted the term *sight playing,* as I find this more inclusive in its connotations.

"The chapter on *Time Counting* had been planned as a separate discussion. It is obvious, however, that this constitutes a large and important part of *sight playing,* and I decided to include it in this booklet. This is also true about the chapter on *Music Theory.* An elementary knowledge of *music theory* is a decided asset to the young student in *sight playing.*"

Mr. Moore concludes his foreword: "The G. Leblanc Corporation sponsors these publications as one of its contributions to the advancement of music programs in our schools. Your comments and suggestions will be welcomed sincerely." To which we add our vigorous and complete approval.

We continue to offer the services of the outstanding musicians on our educational staff to directors who plan to promote increased activity in *sight reading,* or in any other sound, healthy program for the advancement of instrumental music education in the schools.

Vito Pascucci, President
G. Leblanc Corporation

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Playing at Sight

E. C. MOORE
Leblanc Educational Staff

The title of this booklet, "Playing at Sight", is, I believe, broader in concept and more meaningful than the usual title, "Sight Reading." Although they are competent musicians, few school band conductors can play every instrument in the band, yet they can read each individual instrumental line in the score, and they know enough about each instrument to teach each player how to play his part. Actually, the competent conductor is concerned with the actual performance of music the first time he reads it in score form, long before he hears the actual sounds. This "sight-reading", which precedes a performance, is also true about sight playing. Good readers do two things: (a.) they read ahead; (b.) they memorize the patterns of sound they have just read.

These are the practical requirements for developing good "sight-reading" ability. The performer must:

1. Recognize and understand key signatures.
2. Recognize and understand meter (or time) signatures.
3. Recognize the sound of notes by their position in relation to the staff; be able to hear intervals accurately and know the fingerings for all notes in the playing range.
4. Recognize and understand note values and be able to relate these to note groupings and rhythmic patterns.
5. Recognize and understand the rhythmic implication in articulations, staccatos, slurred groupings, and so on.
6. Recognize and understand the words and symbols by which tempo and dynamics are indicated.
7. Recognize and understand the words by which expression is indicated.
8. Have an understanding of the basic theory of music.

These constitute the physical requirements for developing good "sight-reading" ability:

9. The ability to play in tune and with good tone quality consistently, throughout the entire range.
10. The ability to count time accurately and incisively, and to beat time correctly.
11. The ability to control the emission of tone and play with expression.
12. The ability to control breathing and make phrasing intelligible.
13. The ability to control tonguing and master the basic articulations.
14. A thorough knowledge of the correct fingerings.
15. The ability to maintain adequate speeds when manipulating the instrument.

We will break the general problem of "sight-playing" into sections, discuss each one separately, and suggest how the teacher may diagnose specific problems. Practical suggestions will be offered to help correct faults that may prevail.

Say the scriptures: "As ye sow, so also shall ye reap." It is almost an inviolable rule that every problem in "sight-playing" may be traced to weaknesses in fundamental training. The ability to play at sight with reasonable accuracy is a "by-product" of sound, careful routining in basic fundamentals. Superior "sight-playing" implies the ability to perform new music at reasonable speeds and with expression, so that the first reading is like that of a concert performance. When musicians are trained carefully and given a sound, practical routining in basic fundamentals, they require no special coaching to become good sight readers and players. Those who are not routined in basic fundamentals will be so weak in important phases of sight-playing that no last minute coaching will be of value.

Band contests of any nature are won early in the school year because of adequate training in the basic fundamentals. There *IS* no other way. This is especially true of sight-reading contests. Let us forget about contests, however, to consider other benefits that accrue to a band which receives basic and elementary training in sight playing. This band will be able to:

1. Read more new music during the year.
2. Prepare programs easily and quickly.
3. Enjoy rehearsals more.
4. Build an increasing interest in outside practice and perfecting themselves.
5. Take some strain from the conductor, for rehearsals will be more enjoyable, less nerve wracking. (Most directors say that the biggest headaches in rehearsing are caused by the inability of players to judge rhythm and note groupings correctly. Directors are also faced with the ever present reluctance of players to give notes their full metrical value.)

There is no educational value in "buzzing" through a lot of numbers willy-nilly. The player who keeps up with the band and finishes when it does, may or may not be a good sight player. Said an old German on one occasion, "It isn't vat you blay, it's de vay vat you blay dat counts." Each number must be worked on until players understand it and can play it well enough to get a good idea of its content.

Music can be played in style, with understanding and enjoyment only after students have been correctly and adequately routined in the basic fundamentals. Students know when music has been prepared poorly. Hours of rehearsal are wasted when bands have not been schooled in the fifteen requirements listed in this outline. Bad performances are not enjoyable to band members or to those who hear them. They have no educational value. School band conductors, members of educational faculties, are paid from public

funds. They owe a great obligation to students entrusted to their care. Even the best efforts of the band conductor fall short of perfection. Therefore, the conductor must teach well, give his students a thorough understanding of the principles of musicianship, and lead them into rapport with the spiritual essence of great music by insisting upon a creditable performance. No other criteria should prevail!

Among both music students and teachers, there exists an almost general reluctance to read text; it's just too much bother. I adopted and taught from an excellent clarinet method for two years and never read the text. One day I took time to read it and found it to be a postgraduate course in clarinet playing. I learned a valuable lesson, believe me. Now, I read the text of all instruction books. Neglecting to read the text in method books is a general failing among music students and teachers.

Another weakness is the way instructions are followed after they are read. Here, students and teachers can be compared to the fellow who goes to the doctor, receives two or three kinds of medicine to cure his ailments, goes home and takes only one kind, then kicks like a steer because he doesn't get well. Frankly, I lead up to this point; use in their entirety the methods advocated in our educational books, for these are backed up by years of thought, experience, and experimentation, and are not whimsical ideas dreamt up on the spur of the moment. They are clear-cut, scientific, practical, and will produce excellent results if used as stated in the text. Care is taken to see that method books published by Leblanc Publications contain the essence of teaching practices used over the years by the world's greatest teachers. No matter what method is used, however, check it carefully and scientifically before releasing it to your students. At the risk of sounding pedantic, I reaffirm my belief that students entrusted to your care must have the best possible training. Personal likes, dislikes, or prejudices must not be allowed to influence you in your choice of teaching methods and materials. The basic consideration underlying a worthwhile evaluation of methods and teaching materials should be the student—what is best for him.

Now we proceed to a discussion of the fifteen requirements outlined at the beginning. Many readers may disagree with my conclusions. This is only natural and is acceptable to me when those who disagree back up the area of their disagreement with scientific data, or empirical observation. When there is disagreement, however, I trust that, figuratively speaking, we can put our feet under the table in the friendliest possible manner, and exchange ideas for improving our teaching techniques with one objective in mind, that we do the best possible job of teaching the students in our charge.

1. *KEY SIGNATURES* – The ability to recognize the meaning of tonality as related to key signatures comes through practice. The best routine to follow is scale practice, emphasizing *ALL* major and minor scales. Special drill will be valuable. For example, place various key signatures on the board, and have the entire band

recite aloud, giving the letter name of the key. Or do it this way. Ask for a showing of hands of those who recognize the key, and have one student identify it. If there is time, have the entire class vote on the answer. If the first individual muffs the answer, ask someone else. After it has been identified correctly, ask the entire band to name the key aloud several times. (Then have the band play the scale, from memory if possible. During the course of the semester, it should be possible to include all major and minor scales in this basic rehearsal procedure.) Do not stop after one person has named the key correctly, for many students may not have heard the answer, or may still not be sure of it. After the entire class has named the key aloud several times, nearly all of them will remember it. (The clever salesman uses this principle by repeating your name as many times as possible in his first conversation with you so that he won't forget it.) Oral group recitation is a *most valuable teaching procedure.* Hereafter, I shall refer to it as "oral recitation." "Oral recitation" does not reach a point of aimless repetition until every member of the class can answer correctly, every time.

2. *METER* (or time) *SIGNATURE* — Meter signatures may be learned easily through oral recitation, and by connecting the beginners' past experiences with things to be learned. The educational principle here is that of moving from "known to the unknown." For example: a 4/4 meter signature may be likened to a basket containing four quarts of milk; and a 4/8, to the same basket containing four pints of cream. The bottom figure of the meter signature represents the unit of measurement, and the upper tells how many units in each measure.

3. *NOTES AND FINGERINGS* — I believe that teaching the names of notes should be done coincidentally with teaching the fingerings. This follows a teaching principle already elaborated upon. Look at the note, name it aloud, finger it on the instrument. The impact made upon the thought process is greater than if the note were merely named, or fingered. Three senses receive brain messages simultaneously. Moreover, in learning two things at once, the student saves time. Theoretically, it becomes possible to cover in one year the amount of material usually covered in two. One important educational principle to keep in mind is that learning through the senses is "learning by doing". During the heat of performance it is questionable that we are cognizant of the names of the notes, they go by so rapidly. Apparently, during performance, the eye recognizes the note, the mind perceives its purpose, messages are flashed to the lips, the tongue, the fingers, and the breathing apparatus, reflexes are ordered, and the tone is sounded. Through constant repetition on fundamentals, this elaborate process becomes established within the subconscious. The marvel of a musical performance is the constant speed of reflex actions. To begin with, however, students should be taught to recognize notes by letter name and fingering. Because it is based upon sound teaching principles, this method always produced sure and quick results for me. I recommend it most highly.

4. *NOTE VALUES AND NOTE GROUPINGS* – Instant comprehension of note values and groupings is, to my mind, the most important part of sight reading and sight playing. One may acquire the ability to analyze time patterns and rhythmical groupings at sight, but only after diligent practice. This subject is so important that a whole section will be devoted to it later on in this booklet.

5. *ARTICULATIONS* – The ability to *read around* notes and play either staccato or legato is important. Twelve groups of basic articulations are used over and over again. These may be combined in any arbitrary manner, but this will not cause confusion if the student understands and can play them in their basic forms. These articulations are coordinated with the twelve basic note groupings in the section devoted to counting time, to help clarify their teaching. It is best to introduce articulated patterns during that segment of the rehearsal devoted to playing unison scales. Then two things are accomplished at the same time as the student becomes adept in playing scales and using articulations. When formal scale practice is not a part of rehearsal routine, choose a short scalewise or chordal passage from a selection and drill on it using all articulations, until it becomes routine to play them correctly at sight.

6. *TEMPO INDICATIONS* – Recognition of tempo marks can be taught easily by "oral recitation". Students see all the markings on the printed page, probably as well or better than the conductor. But they do not heed them unless the conductor insists that they read "around the notes", and play accordingly. Several of our educational booklets say that students respect and admire the conductor who maintains high standards of performance by insisting that students learn to read music carefully. He must, of course, be by instinct a gentleman, courteous, resourceful, and tactful in manner. Some teachers seem afraid to antagonize students by insisting on high standards. Yet, how often I have heard students criticize a conductor who was too easy on them. Integrity, sincerity, and high idealism are the character traits the good band conductor possesses.

7. *DYNAMIC AND EXPRESSION INDICATIONS* – The ability to recognize and understand the meaning of indications for dynamics and expression comes after careful practice, and is best taught through "oral recitation." Many Italian words can be connected with similar English words. For example: "Lento"—slowly—can be tied to our word "Lent"—that time before Easter when we are asked to pace our lives more slowly than usual. The Italian "Moderato" has the same meaning as the English word, "Moderate." And the words "Presto" and "Crescendo" have the same meaning, both in Italian and English. Whenever possible, proceed from the "known to the unknown." Tie up that to be learned with something the student already knows.

8. *BACKGROUND OF THEORY* – This is debatable ground, although I am reasonably certain that the student who has a background of Music Theory is a better sight player. In fact,

he will be a better player in every respect. An elementary knowledge of theory is certain to give the student more confidence in his ability to do the right thing at the right time.

In my opinion, elementary theory should be taught with the playing of the instrument. I learned this lesson with the first band I taught. The only beginning band book available in those days was one which had a catechism of music at the beginning. Before he could get an instrument, each beginner had to memorize every question and answer. I thought this was the superior way to teach. To my dismay, I found that after the boys got started on their instruments, they had to relearn the questions and answers. After this experience, I adopted the policy of teaching all theory that was needed as my students learned to play the instrument. I am aware that in many European conservatories the student is taught solfege, sometimes for as much as two years, before being allowed to play an instrument. It must not be forgotten, however, that these conservatories are training selected, serious, talented people for professional careers, and deal with a different situation than prevails in our public schools. In America, the basic idea underlying the public school instrumental music program is that every child have an opportunity to play an instrument, no matter what the extent of his talent. I criticize neither the European or American concept nor am I sure which is the best way to proceed. It has never been proved scientifically that one way is better than the other. I question, however, if we would have any students in our musical organizations if they were required to study solfege for two years before joining a school band. Only a handful out of the thousands of players in school music groups ever take up music as a profession. With most students music is a cherished avocation, something to hold dear so long as they live.

While I respect and admire the teaching methods of European conservatories, I believe there is much yet to learn about teaching processes. Age and tradition do not necessarily define a learning process as being the best. I firmly believe that any learning process which involves the senses can be accepted and used as a logical and economical teaching method. Thus, it seems sensible to teach note names, scale formations, and the rest of our so-called musical theory, as physical skill is being acquired. It is true that situations we meet in life which involve several senses tend to be those remembered the longest. I do not remember how many times I have seen lightning or heard thunder, but I do remember vividly the time that thunder and lightning came together so hard that I literally felt the concussion. This vivid remembrance is the result of a simultaneous impact made on three of my senses. One thing not to be overlooked when acquiring mental and physical skills—*repetition* must be accomplished without *error*. In teaching a band, *everyone* must learn correctly. In a mathematics class students may be failing, yet stay in class and have little influence on the rest of the group. But in the band—Ah! what a difference. Everyone must play his part well, or the work of everyone else will be ruined. *Band members must live by the Golden Rule.*

Now to a discussion of the actual "sight playing" of what has been "sight read." Many points that remain have been discussed at length in other books of our educational series, especially in the "Band Book." So I will treat them briefly here, not because they are unimportant, but because I wish to avoid repetition except for the sake of emphasis.

9. *INTONATION AND TONE PRODUCTION* – In our "Band Book," tone production is discussed and exercises given which make a band tone-conscious. Complicated exercises or long rehearsals are not needed. Band members become excellent sight players, however, only after they become tone-conscious, and have developed an ability to play with a lovely tone consistently, and habitually. Sight playing requires mental concentration and it is not uncommon for experienced performers to play at sight with a tone quality far below par, for they are not truly conscious of the sound being produced. This is especially true when playing in extreme ranges. This truth should provide ammunition to spur individual players to practice on scales including both extremes of range on their instrument. The remarks on tone apply equally to playing in tune. All that is needed here is to remind the conductor to practice on tone and intonation each day, until the players build a "mental keyboard" for hearing accurately, without which they will never play in tune. The continued use of the exclamations "*Listen*"—"*Sing*"—serves to snap the attention of players back to actually hearing themselves play.

10. *COUNTING TIME* – The ability to count and beat time accurately is so important that a separate section is devoted to explaining how this may be taught efficiently.

11. *EXPRESSIVE PLAYING* – The ability to play a part as written, and be flexible in following the conductor's signals, is acquired only through special practice. Band members will not "read around the notes," play dynamic and expressive marks as indicated, and at the same time watch the conductor unless they have been trained to do this from the very beginning. There should be constant practice on this aspect of reading. Playing at different dynamic levels is a relative thing that is concerned with the acoustics of the room, the balance of parts, and the carrying ability of the instrument or instruments playing the melodic line.

Many suggestions are given in the Leblanc "Band Book" to help in developing the ability to play expressively. Many students have but two ways to play expressively, *loud* and *soft*. There are infinite gradations of volume, from the faintest pianissimo to the loudest fortissimo. A sensible way to get this idea across is to play four measures of a chorale as softly as possible. Then play the same four measures, piano, mezzo forte, forte, and finally fortissimo, not forgetting to caution the band never to play louder than what may be called "lovely." Then select a chord, have the band take a full breath and play it pianissimo, with a crescendo to piano. Repeat the chord, beginning piano, with a crescendo to mezzo forte; then from mezzo forte to forte; and finally from forte to fortissimo. This drill takes only a few seconds

and should be included as a regular part of each day's "warm-up" period. Make the band realize the different gradations of tone, and be conscious of how they are playing, as well as *what* they are playing. Be sure that they recognize the dynamic limitations of individual instruments. For example, the clarinet does not have the dynamic range of a trombone. When this is forgotten, either by performers or conductor, results are apt to be disastrous. Students must watch the conductor's hands for indications of expression, tempos, and accents. Do use the expression "Watch my hands" constantly. Students are sure to bury their heads in the music unless taught to read and watch the conductor at the same time. This can be learned, but only after constant drilling and admonition.

12. *PHRASING* – Phrasing means to "punctuate" the performance with musical commas, semi-colons, periods, and so on. Thinking and playing phrase-wise enhances the beauty of music. It is not difficult to teach the elementary rules of phrasing. This can be done by using a familiar tune like "America." Have the band play this as if singing. Stop at the end of each sentence and have them take a deep breath. Then have them play it through without stopping, but continuing to breathe at the ends of sentences. In a short time they will comprehend the idea of phrasing, and will do it correctly. Keep using the word "sing", as this will help them to acquire a feeling for phrase line. After they have learned simple phrasing, there will be a foundation upon which to build. Since the "inner" voices must follow the phrasing of the melodic line, everyone must *listen* to the melodic line carefully. It must never be covered.

13. *BASIC ARTICULATIONS* – In the Leblanc "Flute Book" suggestions are given regarding the playing of articulations. This book should be studied, because the remarks in it about style apply to all wind instruments.

14. *FINGERINGS* – If one is to sight play with efficiency, fingerings must be taught thoroughly. In teaching fingerings on wind instruments, it is best to remember that notes preceding or following a "given note" govern its fingering or slide position. Students must be taught to read notes in sequences or patterns. To illustrate: fourth line Bass clef F is a first position note on the trombone; however, when it is preceded or followed by second space C, it is usually played in the sixth position. A brochure "The Overtone Principle", published by Leblanc, discusses in detailed fashion the use of auxiliary fingerings and positions for all brass instruments. Other Leblanc brochures discuss this matter in detail so far as woodwind instruments are concerned. Proper use must be made of alternate fingerings and slide positions, or wind instrument players may get into awkward situations which preclude the possibility of developing a fluent technique. It is a good rule to teach the use of legitimate fingerings and positions as a rudimental base from which one deviates only when auxiliary fingers or slide positions become absolutely necessary. The time to teach them is when the situation arises that makes it imperative to use them. I remember a national band contest at which I served as one of three judges for Class A sight-reading. The test march had an

introduction with an easy passage for trombones if the F naturals which followed the low C's were played in the sixth position. But is was most difficult to play up to tempo if, (as nearly every trombone section played it,) the slides were made to travel rapidly from first to sixth position. There is one section in the trombone part of Mr. Sousa's march, "The Thunderer," that can be played almost entirely in the sixth position. To change from first to sixth position during performance calls for an extremely rapid movement of the slide. I have gone into these examples at length because it is so easy to teach these techniques at the beginning.

It is natural for directors to feel that they do not have time enough to train a band thoroughly at the beginning of the year. The truth is that while the band which is trained correctly may move more slowly at the beginning, its ensemble performance will be much better than that of the carelessly, fast-trained band well within a year's time. Believe me, a careful routining in the basic fundamentals of musicianship is the only honest way to teach young people.

The best way to teach correct fingerings is by using a rehearsal routine which combines scales and chords. In the Leblanc "Clarinet Book", I give the four simple rules for fingering that follow accepted precepts laid down by our greatest teachers. And in the "Flute Book", I mention that in his daily devotions, every school band conductor should ask the Almighty to give him grace and wisdom to use fingering charts as these are laid out. Wind instruments are built around basic fingering schemes. The only deviations permissable are those used in avoiding an awkward technique, or for trills and other rapid alternations. When a band plays well at sight, its players have been thoroughly routined in the correct fingerings for their instruments. When a variety of illegitimate fingerings or positions is permitted, confusion results, and both tone and intonation are impaired seriously. Speed of technique is acquired by constant, correct daily practice. At first, difficult passages should be played slowly and accurately, then speeded up gradually, bearing in mind not to move to higher rates of speed until technical difficulties have been mastered at the slower. It is best to go beyond the speeds required in playing difficult passages, and then return to the right tempo. This routine will produce a relaxed, easy, flowing technique. I repeat the admonition given in the "Flute Book"—the ultimate in speed cannot be gained except through relaxation. Tension is fatal to speed.

Before going into a detailed discussion of time counting and teaching theory, we should discuss the best way to rehearse for sight playing. Really, careful rehearsal routines must be maintained for playing all new music. An attempt to play music at sight while using incorrect techniques is harmful to the embouchure, hand positions, and the tongue action, to say nothing about inducing sloppy, careless habits of performance. Somewhere I read that the great operatic soprano of yesteryear, Galli Curci, always played new music over on the piano until it was mastered before attempting to sing it. She said that sight singing of difficult music

could be disastrous to the voice. Through playing a new piece on the piano over and over again, she built a "keyboard" in her mind, so that when she sang it, she heard the intervals and rhythms accurately. This appeals to me as a sensible and logical procedure. Unless music is sight read before attempting to sight play it, I have noticed that the lips of high school band members tire very quickly. Stumbling over parts, using wrong fingerings, and trying to play intervals that are not heard and cannot be comprehended, is conducive to acquiring careless, slovenly habits which hinder a student's progress.

Let us examine a model procedure to determine what is done in sight reading contests. A moment, please, to set the record straight. I refuse to get into an argument over the merits or demerits of band contests. This is an issue to be settled by band conductors themselves. I must say, however, that the procedure used in sight reading contests is a wonderful plan to follow in daily rehearsals. Here is the plan followed at well-organized sight reading contests.

a. Music is passed out to the students who place it face down on the music stand.

b. The conductor is given the score and permitted to study it for a few minutes.

c. At a signal the players turn over their music and examine it.

d. The conductor is allowed a few minutes in which to explain the music to the students.

e. The band plays the new music "at sight." (But it has been sight read during the minutes previously.)

The closer the band comes to a concert performance, the higher their rating.

This is an excellent procedure to follow in rehearsing new music. A few suggestions are offered:

a. Players must not talk to one another while reading silently. Each player must be trained to "stand on his own feet."

b. The use of the expression *"Read Close"* serves as a terse admonition from podium to performer to "read around" the notes.

c. A constant repetition of the phrase "you see all the markings and tempo indications as well as I do" serves to make players alert to "reading around" the notes.

d. However, a few words about the style of the music are not remiss.

e. Nor is a brief discussion about tonality, rhythm, and so on.

f. Each piece of "new" music in the folders should be rehearsed this way.

As time goes on, players should be able to assimilate and analyze new music more rapidly and easily, until the goal of "playing at sight" is well within view. "Playing at sight" has a further connotation than "reading at sight", for it implies a technical ability far beyond that necessary to execute the music being read. This rehearsal procedure should be established early in the school

year. A word of caution—when selecting music for sight reading and playing, do not choose music so easy that it offers little challenge to the student, or, conversely, so difficult, that it lies beyond the upper limits of the student's comprehension!

I am aware that nothing new has been presented thus far. I have only reviewed basic, elementary training routines. Yet I repeat, the band that has had solid training on the fifteen points listed herewith will be able to read and play at sight. Nor is there a secret involved, or a royal road to success. So far as I know, no magical formula exists to enable the conductor to suddenly say "Hocus Pocus, Dominocus," then wave his baton over a wonderful sight-playing band. The only method that gets results is daily inspiration coupled with daily perspiration. Good, honest sweat never hurt anyone, least of all school band conductors and band members.

COUNTING TIME

Let us agree that the term "Counting Time" used in music means to locate the beats, and measure, and determine the value of notes and rests in the measures. This implies an actual measurement of time duration. When a metronome is set at 60, each beat is one second long, and a quarter note held for one beat has a duration of one second. A half note would have a duration of two seconds, an eighth, 1/2 second, and so on.

There is a sense of rhythm within our bodies which acts as a natural metronome to measure the beats in music. If music were written with notes only a beat long or multiples of that beat, no problem would be involved. What causes trouble is subdividing the beat accurately on all notes shorter than one beat.

An analysis of this problem reveals that, in large part, band music is written to use either eighth or quarter notes as units of measurement. In band music, these meter signatures appear often: 3/8–4/8–6/8; or 2/4–3/4–4/4. The half or sixteenth note, i.e.– 2/2–3/2–4/2, or 4/16–8/16–, is used less often as a unit of measurement. In baroque and early classical literature, 2/4–3/4–4/4 or meter signatures are often used to denote 4/8–6/8–8/8 or 4/4 respectively. This is especially true in slower movements which bear the tempo indication Lento, Adagio, or Andante. It is best to investigate this aspect of the meter signature before performing music of the baroque and early classical period. I have seen fairly fast rondos marked 2/4, which all authorities agree should be performed with 4/8 feeling. When the speed of the individual unit becomes slower than M.M. 60, it may be difficult to feel the rhythm. Thus, a speed marked M.M. 50 is easily comprehended when its unit is divided in half and played at M.M. 100; i.e. 4/4 M.M. 50 equals 8/8 M.M. 100. Conversely, 4/4 M.M. 200 is more easily comprehended at 2/2 M.M. 100. During rehearsals difficult passages may be broken down into different times. A simple illustration is found in Molique's "Andante in F" for flute. This selection, in 3/8 time, is played three beats to the measure. One section goes into sixty-fourth notes, however. To learn this quickly and easily it must be counted

and played in 6/16 time, six beats to the measure. After the technical difficulties are mastered, it becomes a simple matter to play the passage up to tempo, beating the measure in three, but counting it in six.

Going a bit further, we find that composers tend to make persistent use of basic groupings of notes, or, shall we say, time patterns. Twelve basic patterns are used continually. These can be compared to, in fact, even match the twelve basic articulations. Methods for counting, or measuring the patterns vary greatly. Perhaps a standard routine for doing this should be adopted and used by everyone. What a boon this would be to student and teacher; the student who, when he changes schools, may have to learn an entirely new method of counting time; and the teacher, who must make sure that every student understands the system of counting time used in his school.

Several systems for counting time are in use. For example, the band student, who through playing in the band learns that he must count time accurately, studies with a piano teacher who teaches a less accurate method for counting time used in older conservatories. Or perhaps this same student may join the school chorus whose conductor does not believe in counting time. This leads to confusion and an unnecessary loss of time. It would certainly simplify the work of the conductor in preparing a large massed group for performance, if performers and sectional coaches were well-versed in a uniform system of counting time. I feel confident that this idea will be adopted in the near future. I do not understand why persons who use a dictionary as a standard for spelling, who count pennies uniformly, and who have adopted a standard system for naming notes, cannot agree on a standard system for counting time.

For several years I taught without using a definite, accurate system for counting time. Finally I realized I was being unfair to my students, for I placed serious limitations upon their reading ability. I had failed to give them an accurate measuring device they could use without help from me. If students are never expected to play anything but simple music, a hit or miss style of counting time is workable; however, when difficult music is attempted, the picture changes at once. Careful teaching and use of the system soon to be presented makes it easy to break down difficult music into small segments, analyze it, learn it correctly, and then restore it to integrity. Those who comprehend this method have the tremendous advantage of knowing how to count time correctly.

Early in my career, I conducted a school band in which the best readers were students of a European-trained teacher who taught a definite system of time counting. Then I moved to a position in another city, and had an excellent opportunity to make an honest trial of his method in my own teaching. The system for counting time which is diagrammed is an adaptation of this method. It produced amazing and gratifying results. For instance, I discovered that the ability to teach fingerings and tone production, coupled with training in a definite system of counting time, pro-

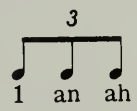
duced young performers who could read and play *"at sight"*. With this method of teaching, given a minimum of guidance, I found that students were soon able to play music of advanced difficulty, music that often times I could not play on their instruments. Another amazing thing happened. My efforts in counting time for them were of great benefit to my own performance and conducting, and opened the door to music I had avoided because I was not confident of my ability to read, play, or conduct it.

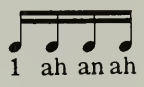
Does this method have educational value, and is it scientifically sound? I think so—for these reasons:

a. It is a simple, easy, numerical system which locates the player in a measure exactly, and uses language learned in early childhood. It enables the player to know precisely where he is on the printed page. When I stand before a band in rehearsal, I want to be able to say to a section, "Folks, the last sixteenth note of the fourth beat in measure number sixty is F sharp." In order to be really efficient, the time counting system must locate the performer and director in "numbered" measures, at precise fractions of the beat.

b. Subdivisions are counted by using syllables "ah"—"an"

Two notes to the beat, as in 2/4

Three notes to the beat, as in a triplet 

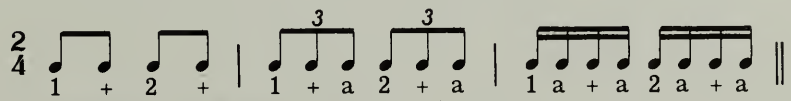
Four notes to the beat, as in a group of four sixteenths 

Since the "a" vowel is easy to enunciate, this system does not distort the sound of note groupings. The actual sound of a note group is conveyed to the performer's mind instantly, surely, and precisely.

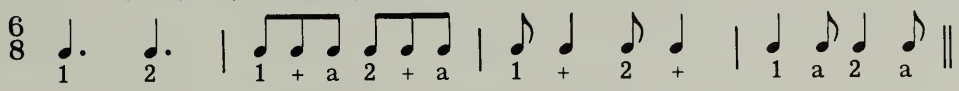
c. The syllables roll off the tongue rapidly and evenly. Say "one ah an ah two ah an ah" over and over again, rapidly. How much easier it is to say this than any other possible combination of syllables.

d. This system is easy to mark on the printed page.

1 an = 1 + ; 1 an ah = 1 + a ; 1 ah an ah = 1 a + a



and in fast 3/8, 6/8, 9/8, and 12/8 when the ♩. is the unit measurement of the beat:



e. This system has been used successfully for years. I used it for twenty-five years, during which time I tried out every other method for counting time brought to my attention. I found no other system that offered the advantages of this simple method.

f. This system is logical because it is easy to learn and teach, especially when started at the very beginning of the student's experience.

Before continuing, I offer these personal observations. Many school band conductors constantly plagued by a "lack of time," make no attempt to be thorough in their teaching. Yet it stands to

reason that when one is pressed for time, he should seek far more efficient and thorough methods of teaching. When students cannot count time, precious rehearsal time is wasted, lost forever.

A standard system for counting time has not been adopted because so little effort has been put forth in that direction by music educators.

Many instruction books contain exceptional material for self-training, provided a good counting system is taught, and the count marked under the exercises being used.

Time counting is an accumulative experience which, when taught correctly from the very beginning, may be learned painlessly and thoroughly. It is almost impossible to teach a student to count accurately after he has played carelessly and recklessly. Moreover, most people offer an incredible amount of resistance to the acquisition of knowledge. Congenital laziness is not a popular subject to discuss, but persons afflicted with intellectual inertia may have this disease. An unwillingness to try out new methods, new ideas, embrace new concepts, seems to be an inherited trait among music educators. A little reflection reveals that unless we think about and try new things occasionally, we might as well be running a machine, doing the same thing over and over again, our days filled with monotony. How can we possibly be fair to our students unless we continually try to improve our teaching techniques? There is no other way to grow and be happy and proud in one's work.

Time counting must be done aloud, in a clean, snappy manner. Rhythmic patterns and note groupings can be memorized quickly if students count them aloud while fingering them on the instrument. This procedure enables the student to hear the count when playing. A little "gremlin" sits in his ear and counts for him, a most valuable asset when rests occur in music. This phenomena can be demonstrated easily and quickly. Count a few measures aloud, then continue the count, but silently. Note that the count will still be heard distinctly in the mind's ear.

Counting should be done rhythmically. Our larger muscles constitute a metronome within the body. It will do much to clear up the confusion inherent to "time counting" if a distinct cleavage is made between the "count" and the "beat". The "count" (or meter) is what we say; the "beat" (or rhythm) is what we do, or feel. Waltz time has one "beat" in a measure of three "counts". Six-eighth marches have two "beats" in a measure of six "counts".

(Interesting, though unrelated in terminology is our use of the words "note" and "tone". A "note" is seen, a "tone" heard. No one ever heard a "note" or saw a "tone".) Pianists, drummers, and string instrument players use large muscles when playing. Obviously, wind instrument players cannot, or at least, should not beat time with their bodies. If they are to feel rhythm, they must beat time with the foot. The only reason for doing this is to induce a strong, rhythmical pulsation in the large muscles. (One reason for not beating time with the big toe is that large muscles are not used, and no strong rhythmic sensation is felt.) Memory

is at work when muscles develop a strong sense of rhythmical feeling. Try this demonstration: count the time for a simple tune like "America," beating the foot vigorously and evenly, down and up. (No "sissy" little tap of the toes.) After going through the tune a couple of times, count time again, but keep the foot still. The rhythm will still be felt in the muscles. Now hum the song softly. Note that the "gremlin" will be heard counting in the mind's ear—and the rhythmic impulse felt in the muscles. If anyone can dream up a sounder, more sensible, logical, expeditious, or easier method to teach counting, I would like to hear about it, a statement I make sincerely. I am the first to admit that it is a "pesky" job to teach time counting. The only method I have found to be psychologically and physiologically sound is the method outlined herein; however, I am still seeking a method which will permit me to say "presto-chango," whereupon everyone will be able to read and play music perfectly.

When you try this method, really count aloud, and beat the foot, evenly and strongly. I ask students to beat with the left foot since this seems to jar the body less. Please do not be afraid to try this for fear that your students will tramp their way audibly through a concert. "Foot beating" at concerts is done by students who are not aware of it. When students are asked to beat with the left foot while counting time out loud, they are made aware of the muscular response involved. They will refrain from beating the foot at your request. Try this: rehearse a number and have students "beat" time with the left foot. Repeat the number and, at command, have the students cease "beating time." (Observe that you can see the response of each individual to rhythm when he beats time with the left foot.)

An accurate method of counting time is absolutely essential to efficient sight playing. Concomitant with the ability to play at sight is the ability to analyze the printed page rapidly. Actually, this analysis precedes the muscular activity involved in playing. When learning to read ahead, at first the eye should be trained to encompass groups of notes, and the mind to hear the patterns of sound involved. Then both eyes and mind should be trained to read and comprehend entire phrases. This sort of "sight reading" and quick analysis demands a definite system of counting time.

Time counting requires daily drill and practice, and is a skill to be compared with that through which a fluent technique is attained. Everyone knows how quickly the fingers become "rusty" without daily practice.

Incorrect time counting may cause dissonances to sound which are not written into the score. For example, a clarinet section may be required to play a unison chromatic scale in a dotted eighth-sixteenth pattern. If only one player in the section plays it in equal eighth notes, a small fraction of each beat will be dissonant as tones a semitone apart sound simultaneously. Nor can it be argued that the tone produced by only one player is covered by the ensemble evenly. Incorrect time counting is a big reason for lack of clarity in performance.

When a student counts and beats time in supervised rehearsals

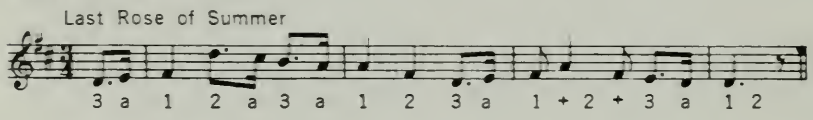
and private lessons, he absorbs the system quickly, and it becomes a part of his subconscious reaction to performance. When the instructor counts time aloud and vigorously, he assists in creating a lasting mental impression in the mind of the student.

Parenthetically, it remains my firm conviction that a band conductor should continue to play on his major instrument, and reserve time each day for serious practice. When a director practices seriously, with definite objectives in mind, he will be on "his toes" and alert to problems involved in performance. Moreover, a conductor who plays one instrument well is encompassed by an aura of authority that enables him to teach more effectively. Being "creatures of action", young people respect the teacher who "does" as well as "says".

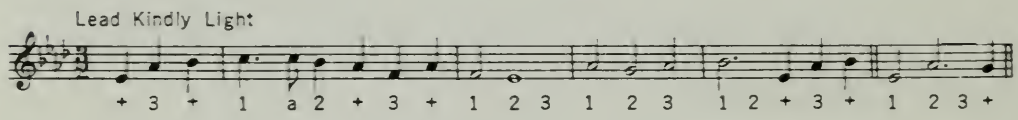
The chart on page 19 sets forth graphically the twelve basic rhythmic patterns, and the relationship of basic articulations. When using the chart, beat time evenly with the left foot, "down-up" for the first eight patterns. The foot starts up when the "an" is said. The upbeat is as important as the down, and its foot action should be stressed. Pronounce the syllables for each pattern exactly where they come on the "down" or "up" beats. On triplet patterns the foot beats an even three, "down-stop-up," and the syllables are pronounced in relation to this. Do not fret because pattern 10 uses the same syllables, "one an ah" as number 4. When pronounced as indicated, these will sound different. When this method is followed, the student is located exactly in each measure through a numerical count and the easily pronounced syllables that follow.

To learn this system in ten minutes, take a song book and mark the counts under the notes of a familiar song. Then count it aloud —and I mean "aloud"—while beating time with the left foot. Go through the song this way a few times. Now hold the foot still, and hum or whistle the song. The "gremlin" will be heard counting in the mind's ear, and strong, rhythmical pulsations will be felt in the muscles.

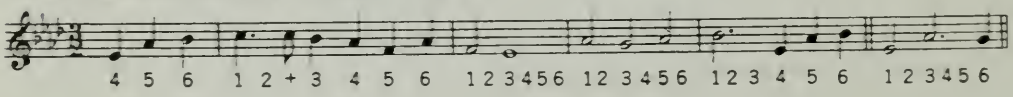
Last Rose of Summer



Lead Kindly Light

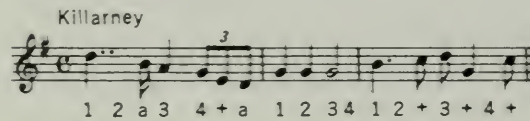


or this old hymn might be counted as 6/4



This to my mind is not as desirable as the first method, however, the introduction to Beethoven's Egmont Overture while in 3/2 time is usually directed as though it were 6/4 time.

Killarney



Silent Night

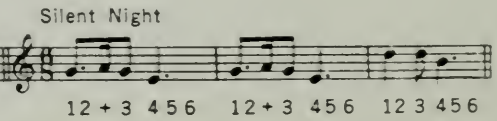


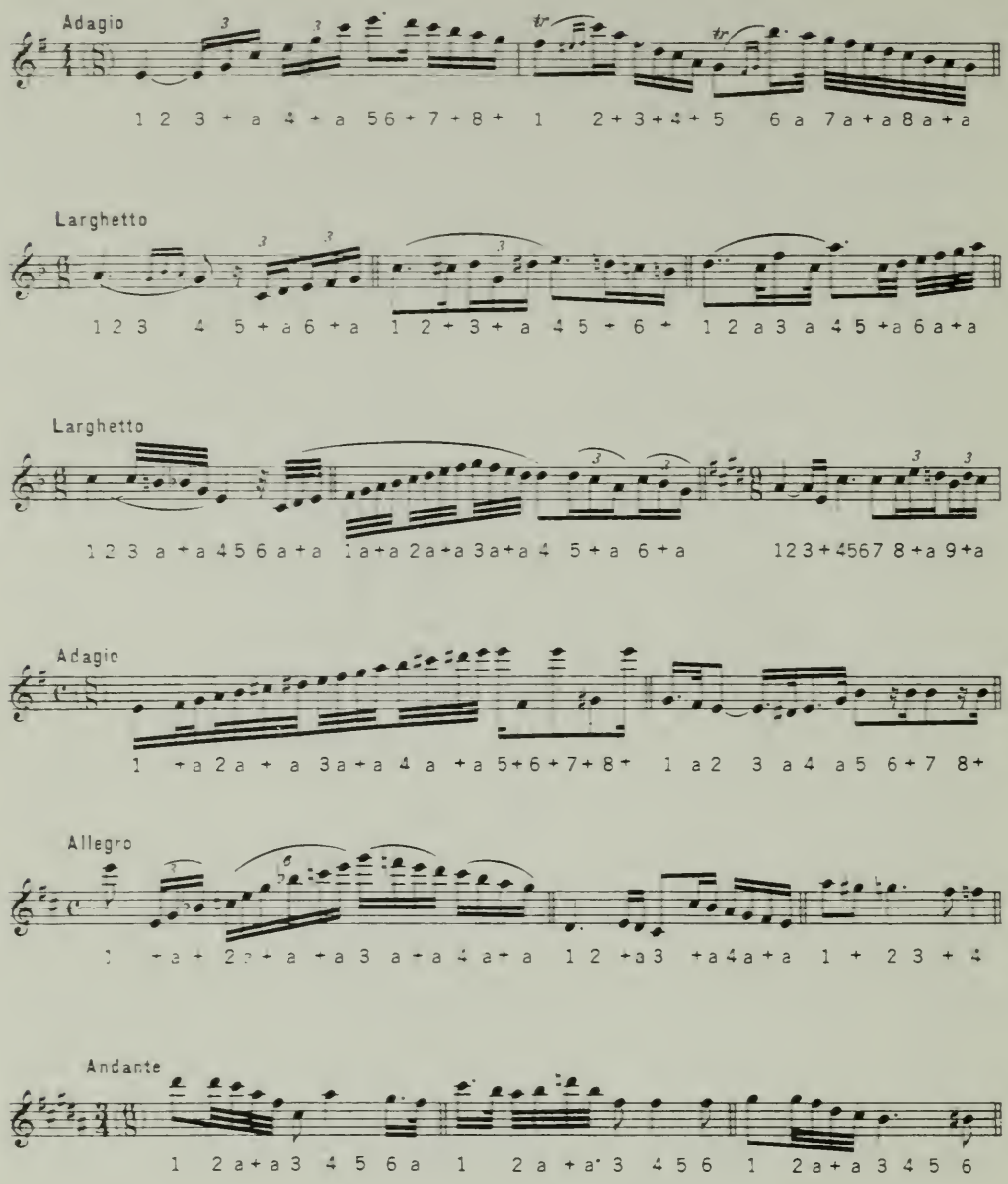
CHART OF BASIC NOTE PATTERNS - THEIR COUNT AND EQUIVALENT ARTICULATION

	Duplet Patterns								Triplet Patterns			
Half Note Times 2/2 3/2 4/2 etc.	𝅗𝅥	♩♩♩♩	♩ ♩	♩ ♫	♫ ♩	♪♩ ♪	♩. ♪	♪♩.	𝅗𝅥	♩ ♩ ♩ (3)	𝅗𝅥 ♩ (3)	♩ 𝅗𝅥 (3)
Quarter Note Times 2/4 3/4 4/4 etc.	♩	♫♫	♫	♫	♫	♫	♫	♫	♩	♫ (3)	♩ ♪ (3)	♪ ♩ (3)
Count	1	1 a + a	1 +	1 + a	1 a +	1 a a	1 a	1 a	1	1 + a	1 a	1 +
Eighth Note Times 3/8 4/8 6/8 etc.	♪	♬	♫	♬	♬	♬	♫	♫	* ♩.	♫	♩ ♪	♪ ♩
Sixteenth Note Times 3/16 4/16 6/16 etc.	𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	** 𝅘𝅥𝅯.	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝅘𝅥𝅯 𝅘𝅥𝅯	𝅘𝅥𝅯 𝅘𝅥𝅯
Articulations	Slur 4	Tongue 4	Slur 2	Slur 2 Tongue2	Tongue2 Slur 2	Tongue1 Slur 2 Tongue1	Slur 3 Tongue1	Tongue1 Slur 3	Slur 3	Tongue 3	Slur 2 Tongue1	Tongue1 Slur 2
Pattern Number	1	2	3	4	5	6	7	8	9	10	11	12

* Only 3/8, 6/8, 9/8 or any /8 meter signature whose top number is a multiple of 3 is valid in this section. The unit of the beat is a dotted quarter note (♩.).

** Only 3/16, 6/16 or any /16 meter signature whose top number is a multiple of 3 is valid in this section. The unit of the beat is a dotted eighth note (𝅘𝅥𝅯.).

Here are a few tricky patterns which illustrate how this system may be adapted to unusual rhythmical patterns.



When rests occur, use the word "rest" in place of the syllable. When counting out a number of measures rest, like four measures of 3/4 time, say "*ONE*, two three, *TWO* two three, *THREE* two three, *FOUR* two Play. (In this day of globe-circling satellites, and the "Countdown", many teachers advocate the following method for counting measure rests, "*FOUR* two three, *THREE* two three, *TWO* two three, *ONE* two Play." Modern day students have little trouble in counting backwards.)

FUNDAMENTAL MUSIC THEORY

We begin this routine explanation of scales and chords with a word of advice to teachers. The effectiveness of this chapter as

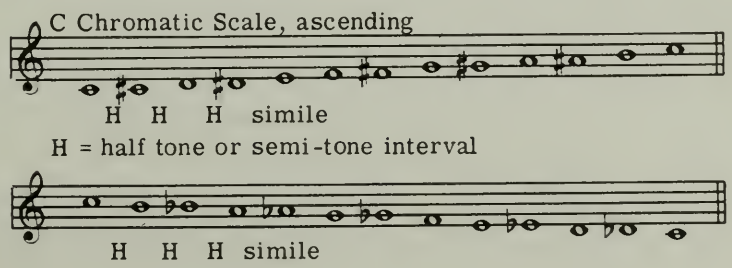
a teaching device will be reduced if it is presented to young students in its entirety. The teacher should be thoroughly familiar with all the material to be presented, but must teach it to students a step at a time. Until they have become familiar with both the instrument and music reading, "music theory" is apt to be over their heads, and students become easily confused. In which case further effort is futile and meaningless. The student must understand and comprehend each idea presented in teaching theory before any advance can be made. Keep the final objective in mind, but approach it a step at a time. Comprehension of fundamental music theory is attained through an accumulative learning process. Each step is meaningful, and must be learned so well that it will never be forgotten. Whenever it is possible, tie up each step of the learning process and each definition with something simple and already known to the student. Stay at his level. Things that are simple to an educated musician may be mysterious and obscure to the student. Remember the days of your youth when you were befuddled and confused by some aspects of music theory.

INTERVALS

It is almost impossible to teach theory without learning a few simple definitions, so let us begin by defining an "interval." In every day usage an interval is defined as the distance between two objects. We say that two objects are three feet apart—an interval of three feet. Simple, isn't it? An "interval" in music is just as simple. It is the distance between two tones with regard to pitch. Intervals are measured by half or whole steps. An actual measurement in vibrations can be made. For example, one tone vibrates at 440 and another at 880 per second. The interval between, when measured scalewise, is found to be an octave Both notes have the same letter name, in this case "A". "Octave" is the Italian word for eight, and when used in music means that one tone is eight scale steps distant from the other.

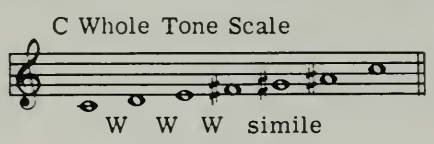
SCALES

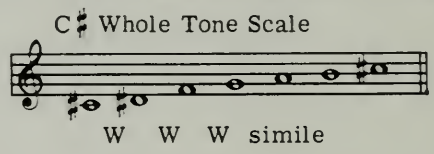
Now to a simple definition for the word "scale". This is derived from the Italian word "scala", which means a "ladder" or "terrace". Thus, a musical scale is a "ladder" of tones. A ladder of tones progressing either up or down, made up entirely of half-tone intervals, is called a chromatic scale. Generally, although not always, ascending chromatic scales are written with sharps, and descending with flats. If the entire class reads the names of the notes in these chromatic scales aloud a few times, they will be learned and memorized, quickly and easily.

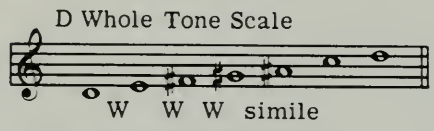


(Chromatic scales are the foundation of technical study on any instrument because they involve all the "legitimate" fingerings.) Although a chromatic scale may begin on any given note in the C chromatic scale, the same notes are involved. Therefore, it may be assumed that there is only one chromatic scale, but that this may begin at different pitch levels. Time is such a precious commodity, and we are allotted so little of it during a lifetime, it strikes me that to practice one chromatic scale covering the practical playing range of the instrument, and using all the basic articulations, is making an economical use of time. Playing page after page of chromatic exercises takes time. Careful practice on one scale, using basic articulations, equips a student with all the technique needful to play any chromatic study at sight.

Scales that progress by whole rather than half steps, are called "whole tone" scales. Modern composers use whole tone scales frequently, even in easier band music. Young players may become bewildered at their first encounter with the "whole tone" scale. But a little "whole tone" scale practice will soon enable them to hear it correctly. A whole tone scale may begin on any step of the chromatic scale. When we reach the third scale step, however, we find that we are playing the same notes used in the first scale. So far as sound is concerned, there are only two whole tone scales.







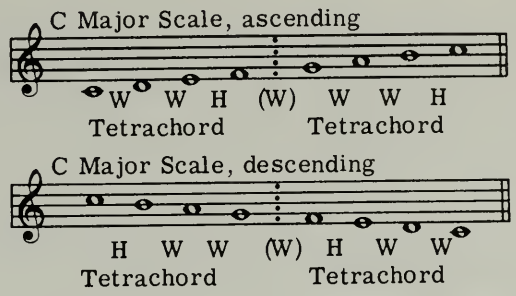
W = Whole Tone interval

The same remarks about practice on the chromatic scale are relevant to whole tone scales. Playing the first two whole tone scales illustrated, throughout the practical playing range of the instrument, using basic articulations, should equip the student to play almost any whole tone study at sight.

Now we must talk about the major and minor scales, or diatonic scales. These progress, shall we say, staff-wise. The word "diatonic" really means "through tones." We come now to the magical word, "twelve." There are twelve notes in the chromatic scale of an octave, and we can hear "pianistically" twelve major scales or twelve scales in any minor mode. More can be written, but these are written enharmonically, that is the tone will be the same, but different notes will be used. For example, the scales of G-flat major and F♯ major, although written differently, sound alike. We shall explain the structure of major scales by beginning on the note "C". On the piano, this scale begins on C, and progresses either up or down solely on the white keys. Incidentally, "major" means in music just what it means in everyday language. We say: "The major part of the day was sunny." Here "major" means "greater." So it is in music. For example, when the name was coined, the "major" scales were those used mostly

in writing music. By the same token, "minor" means "lesser", both in music and when used in every day conversation. "The 'minor' (or 'lesser') part of the day was cloudy."

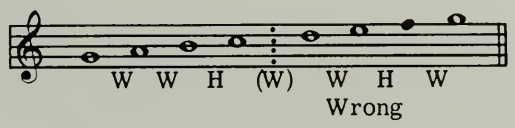
Here is the C major scale. Since it is played on the white keys, no sharps or flats are used in the key signature. When we examine the intervals in this scale, we find that both whole and half tones are used.



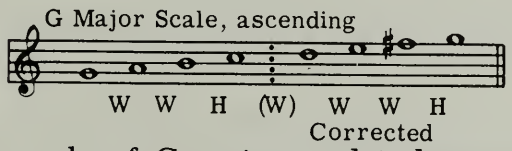
As we examine this scale closely, we find that the four lower tones have the same intervals as the four upper, and are separated —separated by a whole tone. These two halves of the major scale are called tetrachords, the word "tetra" meaning four.

If we were to build a wooden ladder, we would endeavor to maintain the same distance between the rungs, no matter where we intended to use it, either in the basement or on the roof. So it is with music scales. These must retain the same intervals in the tetrachords no matter where the starting (tonic) tone is located.

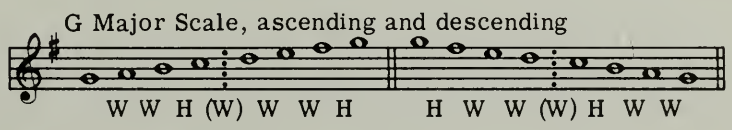
Here is how this works in actual practice, using the upper tetrachord of the C major scale to become the lower tetrachord of the G major scale.



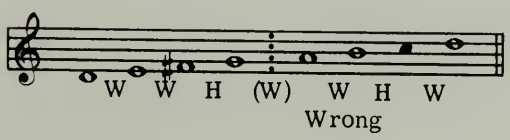
By the simple expedient of raising the F in the upper tetrachord one-half step, we correct the interval relationship.

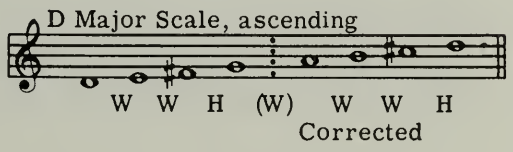


So we form the scale of G major, and indicate this by using one sharp (F♯) in the key signature.

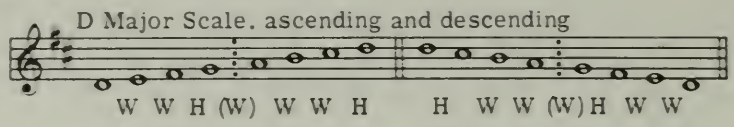


Let us use the same ladder, and begin a scale on the upper tetrachord of the G major scale, starting on "D".

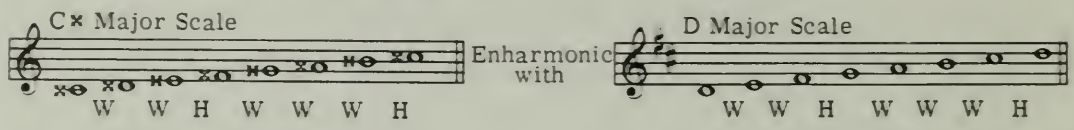




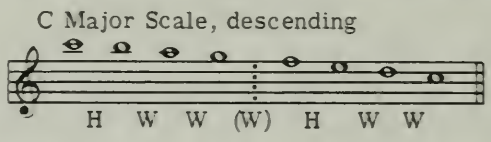
By the simple expedient of raising the C one-half step to C♯, we place the intervals correctly, and have the scale of D major, with F♯ and C♯ in the key signature.



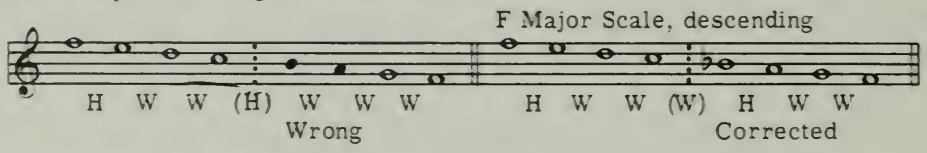
By progressing, and using the upper tetrachord as the lower in a new key, we can write fourteen major scales in sharps, concluding with the scale of C double sharp, with fourteen sharps (seven double sharps) as follows. (A double sharp is indicated by an X, and raises a note a whole tone.)



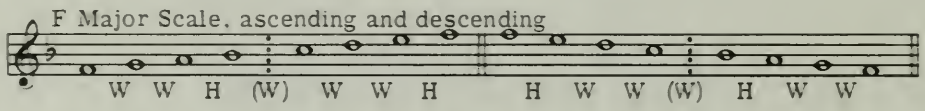
The C× major scale is enharmonic with (sounds like) the D major scale. Now, let us refer back to the C major scale in descending form, and for the purpose of convenience write it an octave higher.



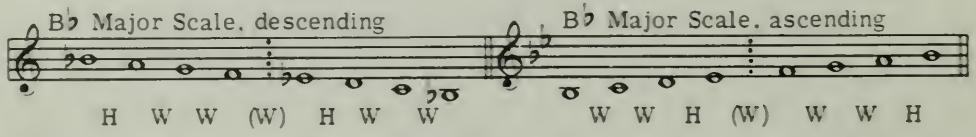
In flat keys we begin with the lower tetrachord, and build down.



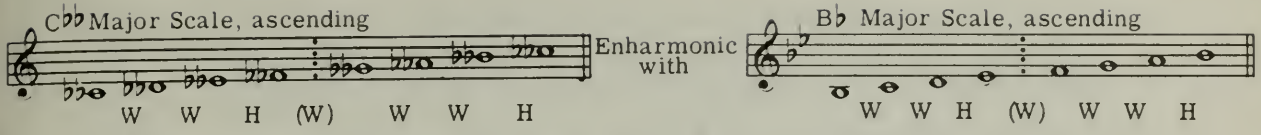
By the simple expedient of flatting the B (lowering it one-half step) we place the intervals correctly to make the scale of F major, with one flat (Bb) in the key signature.



Beginning with the lower tetrachord in the key of F, and flatting the E (lowering it one-half step) we place the intervals correctly to make the scale of Bb major, with two flats (Bb and Eb) in the key signature.



By using the lower tetrachord to begin each new scale, and correcting the intervals by flatting the tones as indicated, we keep adding flats to the key signature until we reach the key of C♭♭ (double flat) as follows: (A double flat is indicated by the sign "bb" and lowers the note one whole tone.)

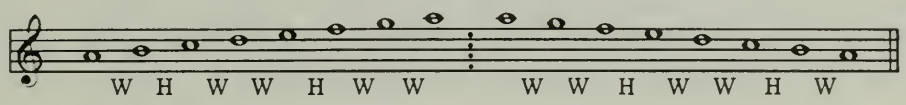


This scale is enharmonic with the Bb major scale. As we build all of the scales, we find that in playing the key of F♯ major, with six sharps in the key signature, we are using the same keys on the piano keyboard that are used to play the scale of G♭ major which has six flats in the key signature. That is, although written differently, they sound alike. In the same manner, the key of B major (five sharps) is enharmonic with that of C♭ major (seven flats); and C♯ major (seven sharps) with D♭ major (five flats). If the sound is the same, why use seven sharps in the key signature (C♯) when five flats (D♭) will get identical results? Scientists tell us that the enharmonic keys just mentioned are not the same in pitch, except in keyboard and set pitched instruments. So far as playing in the band is concerned, however, they do sound alike, and the "tempered" scale of a well-tuned piano can be used for tuning purposes.

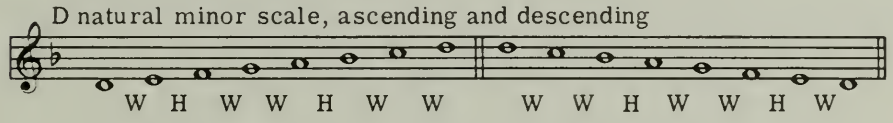
Now to a discussion of the minor mode. "Mode" in music might be defined as meaning a family of scales. Only three minor modes are used extensively, the "pure" or "natural", the "melodic", and the "harmonic". Remember that a scale is a ladder of tones, and that the intervals must remain constant in any particular family or mode of scales.

If we begin a scale on the sixth step (A) of C major, and progress up or down for an octave using only the white keys of the piano keyboard, we have the "pure" or "natural" minor scale in the key of A.

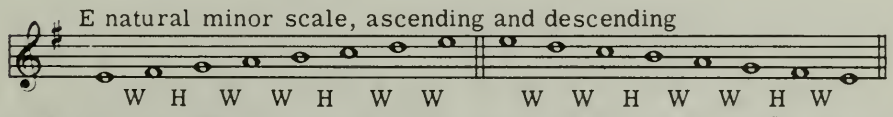
A natural minor scale, ascending and descending



D natural minor scale, ascending and descending



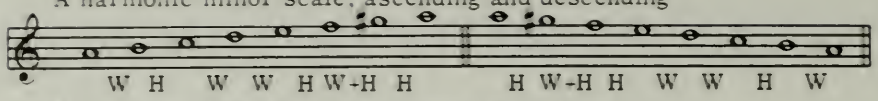
E natural minor scale, ascending and descending



Scales built like this from the 6th step of a major scale are called "natural" minor scales. They borrow the key signature of the major scale upon which they are built.

Now we must consider an oddity in our hearing. We prefer to hear the 7th step of the scale only one-half step from the key note of the scale. It takes a little time to get accustomed to anything else. (Note that whole tone scales sound very strange at first, especially to young students.) We can change the strange feeling of the A "natural" minor scale by raising the G one-half tone to G♯. We will then have started a new family or mode of scales called the "Harmonic Minor".

A harmonic minor scale, ascending and descending

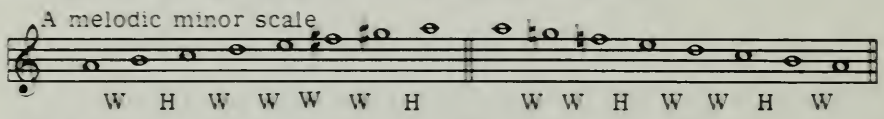


W-H = Whole tone + half tone (semitone) interval

If we were consistent in writing key signatures, the key of A harmonic minor would have one sharp, G♯ in the key signature. But it might prove confusing to use different key signatures for minor scales which begin on the same note. So tradition has it that regardless of the mode used, minor scales borrow the key signature of the major scale upon which they are built. In any case, the first five notes of minor scales are the same in each mode. In all minor scales upper and lower tetrachords do not coincide as to the intervals. Notice that in the harmonic minor scale, besides intervals of a half-tone, and whole tone, one of a whole plus a half-tone is used, (called an "augmented second"). When it is played or sung, the harmonic minor scale sounds strongly minor. Perhaps this is the reason why many teachers prefer it, and use it in formal scale practice. Now, in recalling the structure of the scales, it will be remembered that the Chromatic scale is a scale of half-tones; that Whole Tone scales are made up of whole tone steps; and Major Scales are a combination of whole and half-tone intervals. The Harmonic Minor has half-tone, whole tone, and tone and a half intervals.

I would like to invent a little historical story and say that in the evolution of the minor scale system the "Natural" minors came first. But these did not feel quite right so the "Harmonic" minor scales were created. Vocalists found that singing the "augmented 2nd" in this scale was difficult, so another minor mode was invented to eliminate this interval by raising the sixth degree of the minor scale, and the result was the "Melodic" Minor Mode. (Please remember that my historical story is sheer fiction.) The Melodic minor scale descends as the "Natural" minor.

A melodic minor scale



The melodic minor is not a strongly "flavored" scale. It has always seemed to me that practice on major scales enables one to play melodic minor passages at sight.

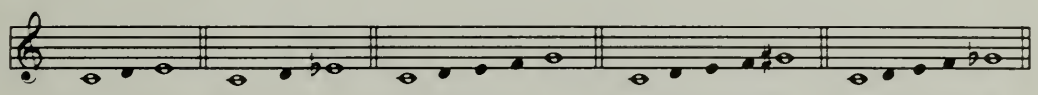
To recapitulate this discussion of scales, I repeat that a little theory tossed into the hopper during a student's training will give him a better understanding, and will improve his ability to read and play at sight. I recommend strongly that students be lured into practice on the chromatic scale, the two whole tone scales, the twelve major scales, and by all means, the twelve Harmonic Minor scales. This practice will provide both foundation for technique and a training in listening.

CHORDS

Now to the consideration of elementary "Harmony". A simple definition for harmony as used in music is "the art of combining

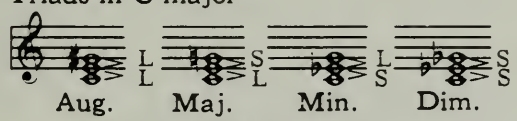
tones". When a combination of tones sounds pleasing, it is called "concordant". The opposite is "discordant". When two or more tones sound simultaneously, we say they are being played "concento"; when the notes of a chord are played rapidly as a series of separate tones, we call this an "arpeggio"—that is "harp-like".

We begin with a discussion of triads. A "triad", similar in meaning to the usual "trio", is a group of three notes. A triad is made of thirds. A third is an interval between two notes of either one and one-half steps (minor third) or two full steps (major third). To illustrate: In the scale of C major the note E is a third above C, counting stepwise C-D-E. Since this interval contains two whole tones, and is in the major scale, we call it a major (or large) third. In the scale of C minor, counting stepwise, we have a third which reads C-D-E♭. Since this interval occurs in a minor scale and contains only a tone and one-half, we call it a minor (or lesser) third. The upper note in a triad will be a fifth above the lowest and a third above the second note in the triad. In the examples given below, since the interval C to G is in the major scale, it is called a "perfect fifth". Raising the G to G♯ makes the interval one-half step larger, or an "augmented fifth". Lowering it one-half step to G♭ makes the interval smaller, or a "diminshed fifth".

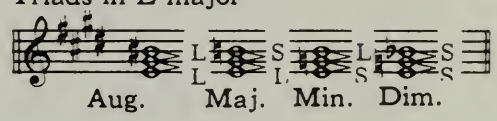


Mathematically there are only four combinations of "true" thirds which make "true" triads.

Triads in C major

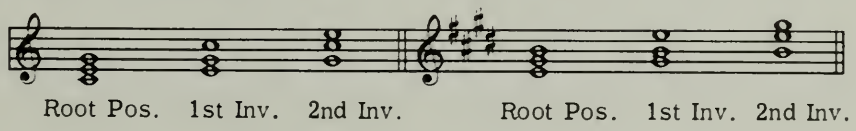


Triads in E major



L = Large or Major 3rd.
S = Small or Minor 3rd.

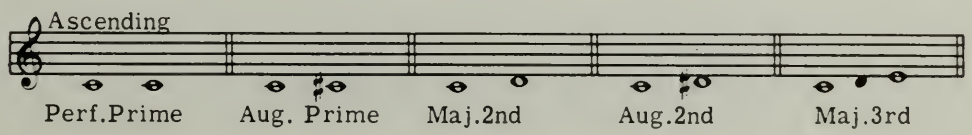
When triads are inverted (turned over) they still retain their names. For example, the C major and E major triads are shown in all possible formations.

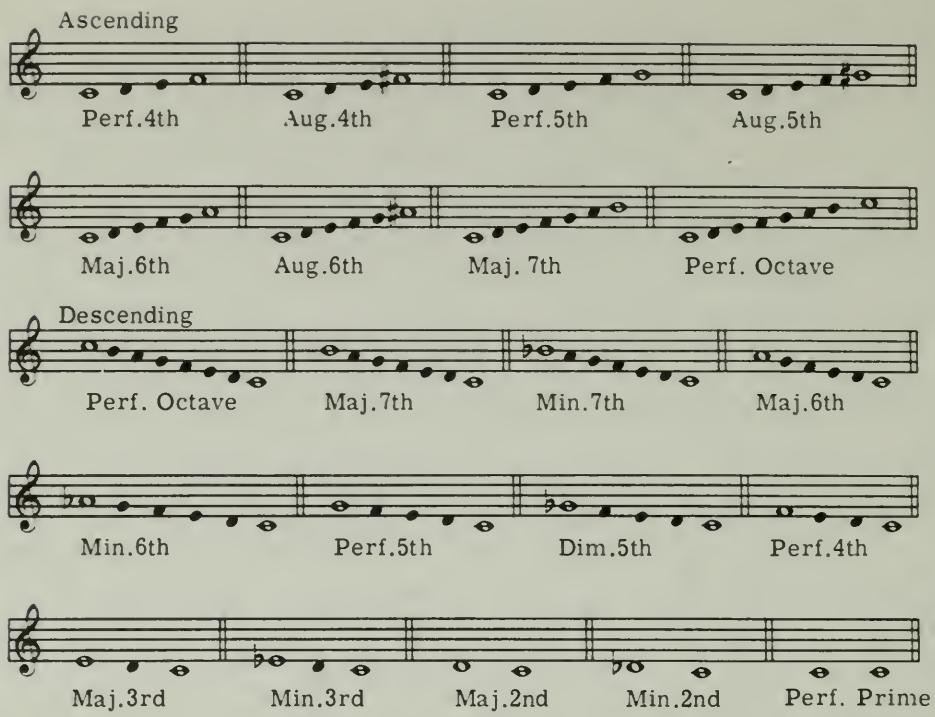


Before delving into "seventh chords", I would like to present a chart of all the most used intervals in an octave, using "C" as a measuring note. These abbreviations will be used.

Perf.—Perfect Aug.—Augmented Min.—Minor

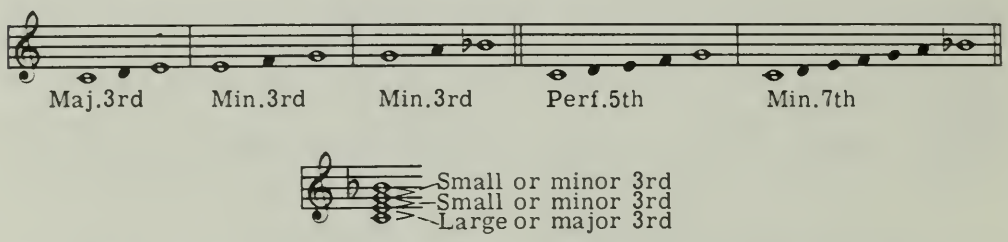
dim.—Diminished



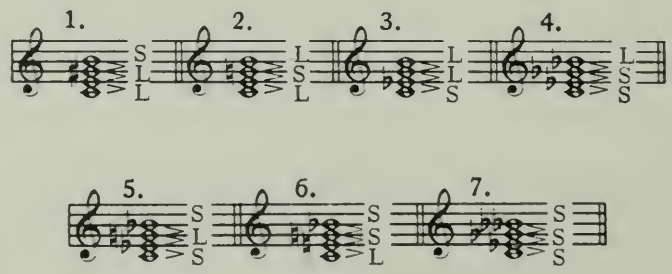


If another third is added above a triad, the interval from the lowest tone to the new upper tone is a seventh, i.e. C-E-G-B♭ C to E a 3rd; C to G a 5th; and C to B♭, a seventh. This combination of notes is called a chord.

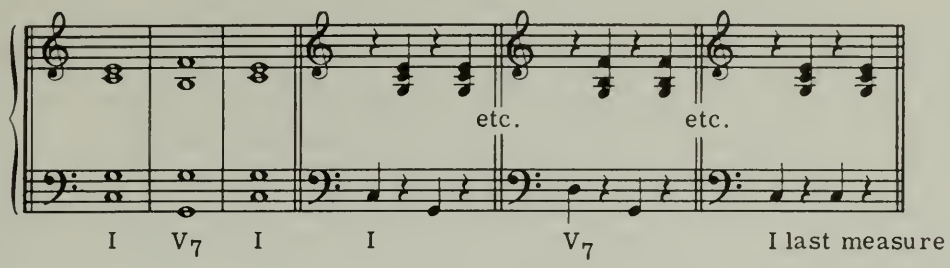
Here is an analysis of a "Seventh Chord".



Since the chord is used mostly in the key of F, and since it is built on the 5th or "dominant" note of the scale, it is called a "Dominant Seventh" chord in the key of F, either major or minor. If we follow the same plan used in plotting the chart for triads, it is possible to build seven "true" 7th chords having "true" thirds using any tone in the chromatic scale as a starting point. (There is an eighth 7th chord possible, but it is enharmonic with the augmented triad. So, for the sake of convenience in remembering, let us settle on seven 7th chords.

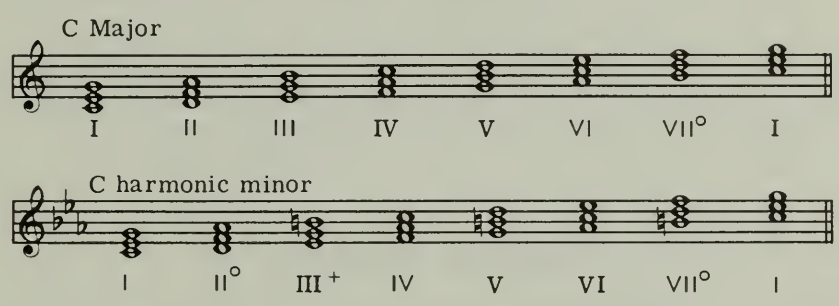


The last two examples, ♯6 (the dominant 7th) and ♯7 (the diminished 7th) are the most useful 7th chords. Many old folk tunes may be harmonized by using the tonic or first chord of the scale, and the dominant 7th, or fifth chord. For example:

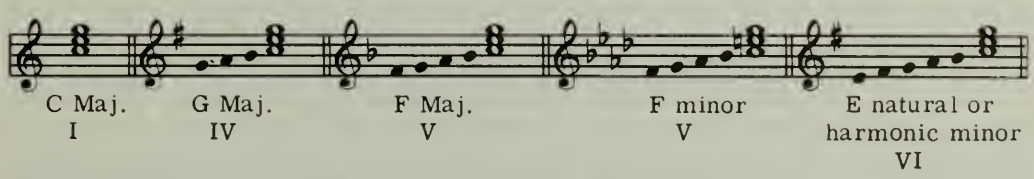


Stephen Foster's "Oh Susanna" may be harmonized with these chords, each phrase being harmonized with just one chord. Notice that these chords contain all the notes of the C major scale except the sixth step, "A", which can be used to harmonize beautifully as the "9th" in the dominant 7th chord; and the second step, "D", which can be omitted from the dominant 7th chord to secure a smoother progression.

It might be interesting to write out all the major and harmonic minor scales through one octave, then build triads on each note, classifying these as major, minor, augmented, or diminished. Notice the location of each kind of triad. Mark major triads with large Roman numerals, minor triads with small Roman numerals, augmented triads with large Roman numerals followed by a dash, and diminished triads with small Roman numerals and a small circle. It is hard to imagine a better way to teach students to read music rapidly. As soon as they begin writing, even if it is only copying, they will begin to read accurately and with fluency. Here are two examples:



When this is done, it will be noted that each major triad will appear in five keys. For example:



Each minor triad will appear in five different keys.
Each diminished triad will appear in three different keys.
Each augmented triad appears in only one key.
Each dominant 7th chord will be found in only two keys. A

dominant 7th chord may establish the key of a piece but not its mode, for the chord is the same in both major and minor.
Each diminished triad in root position appears in only one key.
It is important to remember all this, for when practicing a major triad in arpeggio form, proficiency is being acquired in five keys. I have heard harmony instructors call this "the plural significance of chords".
N.B. There are really only four augmented triads. Each will be found in three keys, but in inverted, enharmonic form.
There are really only three diminished 7th chords. Each will be found in four keys, but in inverted enharmonic form.
To summarize this chapter, we mention the "magic twelve" again and recapitulate briefly. There are only

12 basic note patterns
12 basic articulations
12 notes in the chromatic scale
12 chromatic scales (resolving to one)
12 whole tone scales (resolving to one)
12 major scales (when enharmonic scales are excluded)
12 minor scales in any mode
12 major triads
12 minor triads
12 diminished triads
12 augmented triads (resolving to four)
12 each of the seven different 7th chords

and finally *12* items in the list of "twelves" just enumerated!

This taste of elementary theory has been placed here to guide the director in teaching this subject a bit at a time as the young student progresses. Eventually, they gain an understanding of music, and, even more important, lose all fear of music fundamentals. Perhaps this small taste will whet their appetites for a more substantial portion of the same.

Can anyone question seriously the value of a knowledge of the structural formation of scales and chords to the music student who seeks to improve his "sight playing" ability?

RANDOM REMARKS

The ability of a band to play accurately at sight depends upon the discipline of the group. Many persons become unduly alarmed when the word discipline is mentioned. This is unfortunate, for discipline means nothing more than an orderly, efficient way of getting things done. To always associate the word discipline with punishment is erroneous.

I have yet to hear an outstanding musical organization that was not a well-disciplined group. Perhaps the greatest secret in training a school band to be disciplined is to keep everyone busy all the time. How easy to say during isolated practice on difficult music: "We want to hear the trombones play that passage—will everyone else check your own parts carefully as they play. We may call on some other sections next."

Unless a device like this is used, the proposal to hear the trombone section alone becomes an invitation for everyone else to talk, fool around, and waste time. Rehearsals are enjoyable and attractive only when there is a sense of real accomplishment. High school boys and girls are surprisingly mature. When you hold them in respect they will conduct themselves as do mature adults. The worst insult that can be rendered young people of high school age is to treat them as children. Young people in school bands are almost without exception the highest calibre young people in the school, especially if the conductor has a reputation for maintaining high standards, musically and ethically. All the "know-how", advanced degrees, ambition, musicianship, personality, and "what-have-you" avails but little in developing a first-class musical organization when discipline is absent.

If a conductor is to have the best kind of discipline in a band, it is necessary that he have the liking, respect, and admiration of his students. The best discipline results from a desire to do things well. The greatest teachers are those who inspire students to want to learn. Students respect a teacher who is sincere and honest, and keeps all promises when it is humanly possible to do so. When an exceptional situation occurs which prevents him from doing so, the teacher must "lay all the cards on the table", and give a frank, open explanation. In fact, a good conductor makes a practice of always admitting his errors immediately. Students respect the conductor who is big enough to say, "Folks, that was my error—I'm sorry." Students do not like, and will not respect, the man who tries to bluff it out and cover his mistakes. No one is perfect. Surely a conductor gains prestige if he admits that he is human and therefore not infallible.

One thing that helps a band play with confidence is the conductor who directs with simple, clear, precise, and definite beats. I shall never forget seeing the great conductor, Pierre Monteux, conduct the Chicago Symphony Orchestra in a concert at Ravinia. He controlled the playing of this great orchestra, through an expressive range extending from the faintest pianissimos to the most thundering fortissimos, with simple, understandable motions. The attention of the audience was never distracted from the music through seeing Mr. Monteux indulge in a bit of hula dancing, or go through windmilll gyrations. He did not need to make a pyrotechnical display to get the wonderful effects produced by this superb orchestra. All that was necessary were slight indications given with precise authority, plus a "clean" beat. A good high school band would have responded to Mr. Monteux's beat in the same way as did the Chicago orchestra.

Although poor posture at rehearsals may be allowed and casually overlooked, it is impossible to breathe correctly unless correct body posture is maintained. When a performer cannot breathe properly, how can he possibly play a wind instrument correctly. Physicians tell me that sitting "slumped" down with the legs

crossed can induce curvature of the spine in young students.

Members of great musical organizations have pride both in themselves and in the organization of which they are a part. Surely any one who has pride in the school band will maintain good posture and hold the instrument correctly. It seems a poor method of teaching to allow careless posture to prevail during a rehearsal, then expect students to assume correct positions during a concert. This may prove to be uncomfortable to the players as well as making them quite self-conscious. Moreover, it is a great boost to the morale of a band if they are taught to play at the highest standard at all times and conduct themselves accordingly. This attitude should be evident in both sight playing and in concerts.

To forestall any misunderstanding about the word "articulation", think of it as the "slurring" and "tonguing".

Many persons entertain the fallacious idea that "fingerings" are the big stumbling block in learning to play an instrument. Fingerings are easy to learn. To wit:—the performer who "doubles" on many instruments, and can change back and forth with the "greatest of ease". In my own experience, I find that clarinet fingerings vanish when I pick up the oboe or flute. The flute on which I learned to play was an old Meyer System instrument. When I learned to play the Boehm system flute, the old fingering patterns were not lost, but there was no confusion about using the newer system. My fingers drop into the old routine only if I pick up an old system flute.

Another amazing thing about the learning process is the way our muscles remember. I state the fact this way because to me it is the only logical way to explain this phenomena. How else can the fact be explained that we may learn to ride a bicycle in our youth, discontinue riding for years, and then mount the "bike" again and discover that our muscles still "remember" how to ride. Once the fingering on an instrument has been learned, it will never be entirely forgotten. One will get "rusty" from non-practice, but the fingering patterns and muscular reflexes are so firmly ingrained, that a little practice soon sets things aright. We make these observations only to underline the importance of correct teaching from the very beginning, drilling and playing so accurately that the instrument literally becomes a part of the performer.

We were required to write in our copy books the old adage "Knowledge is Power". A lot of knowledge is contained within the covers of a dictionary, yet it has no power unless it is used. Let us amend the old adage to read "Knowledge is powerful only when it is used."

Every teacher should work on simplifying his presentation; and for heaven's sake be brief. The best teachers are those who talk the least. Students want action. Long-winded explanations tire

them. Please, I have no wish to criticize any person's rehearsal techniques. Do try, however, to make rehearsals both meaningful and exciting. Take an inventory of the way you rehearse a band. Be honest with yourself. Learn the trick of making rehearsals move by eliminating all extraneous talk.

Do you have a systematic routine of "warm up" exercises? Such a routine is great for discipline, as well as being beneficial to the lips. Sight playing should be done early in the rehearsal before fatigue sets in. Always end a rehearsal with a well-known number which sends everyone away whistling a gay tune, and wishing the rehearsal could have gone for a longer time.

The so-called "lucky" conductor, he who gets the best jobs, has the greatest bands, is the fellow who gets to school an hour before the bell rings, and works many extra hours long after students have departed for the day. Also, he is constantly seeking new methods and ideas that will improve his work. His mind is not "ossified".

Young people thrive on encouragement; in fact, we all like a pat on the back. The trite old adage: "More flies can be caught with sugar than with vinegar" is true of our contacts with youth.

One quality inherent to great teachers is an ability to criticize their own teaching analytically and dispassionately. When things go wrong they ask the question, "Where have I failed?" They blame themselves for failure, not the students.

It may be a good idea when testing players for places in the section to allow all the players to decide where each person shall be seated. Then it is impossible for a student to report to his parents that the conductor shows partiality.

Can the student's ability to retain pitches be improved? Answer this question after performing a simple experiment. Sing or play a single tone, talk for a short while, then ask the band to sing the tone. If they can remember a pitch for three minutes, a little practice will stretch the elapsed time to an hour, then two hours, and perhaps, later on, a full day. It will be found most surprising to see what practice along this line does for a group. The reason a blind person is so sensitive to sounds is that he has a lot of practice in listening.

It is difficult to implant in a student's mind a clear conception of how an instrumental tone actually sounds. Even the best radios and phonographs distort the tone of wind instruments, and may give the student a wrong idea of tone quality. A school band conductor should be able to produce two or three authentic tones on each wind instrument. Words are inadequate to describe tone quality.

Inexperienced players tend to nullify their best efforts by playing too tensely. They "fight the instrument", so to speak. They must be trained to play easily and in a relaxed manner. Tenseness is usually caused by poor posture, such as rigid hand and arm positions. Tell the players to "relax", but caution them not to "slouch".

Students often copy the mannerisms of performers who, in spite of poor position and posture, play with considerable technique and tone. Answer the student who says, "Well, Joe Pudlesnack plays that way," by calling attention to the fact that Joe would play much better if he would use good posture and correct hand positions.

I have noted when judging solo contests that the effective work done by many soloists is spoiled by unsympathetic pianists who keep the sustaining pedal down at all times.

The sympathetic vibrations which sound clash and jangle against the solo line.

The soft pedal can often be used to good advantage since it adds variety and color to the accompaniment. On the other hand, over-using the sustaining pedal ruins a soloist's efforts.

The large brasses often "cheat" and fail to hold sustained tones for full value, thus leaving the upper voices in the chord hanging in the air, without foundation upon which to rest.

I like to think that there are two kinds of beauty in music. One is the sensuous beauty of sound, the timbre (or color) of the instruments, which provide color for the picture in tone. The other is a mechanical beauty, when note patterns are executed with precision. This beauty can be compared to the outline of the picture. I am reminded of a handful of shiny ball bearings so beautiful in their symmetry and uniformity of shape. So is a run of notes to my ear when executed evenly, with precision and balance. If, in addition, the tones have a beautiful quality and are in tune, we really have something worth hearing. Of course there is much more to artistic playing than these two features, but what a wonderful start can be made from the two points mentioned.

A four note chord containing two notes having the same letter name is a triad, i.e. C-E-G-C. In 7th chords, the four notes have different letter names, i.e. C-E-G-B♭.

I sometimes wonder about the wisdom of "sugar coating" everything we teach. The question arises in my mind about the advisability of doing this as compared to presenting the challenge offered by a daily practice routine. Couldn't it be true that the student loses interest when things are presented as being child's play rather than a man-sized job? Correct, careful, daily practice

is a man-sized job, which should not be attempted by "sissies".

Occasionally I hear arguments against teaching a definite system for counting time. Yet, to the best of my knowledge, the finest orchestral artists do teach a definite system, and advocate the foot beat as *the* way to acquire a feeling for rhythm.